

REMARKS

Reconsideration and allowance of this application are respectfully requested.

As required in the Office Action, a new Reissue Declaration is submitted herewith.

The claims have been amended for clarity, and new claims 101-105 have been added.

The Office Action rejects the pending claims based on the recapture rule. This rejection is respectfully traversed. It is submitted that this rejection is unwarranted on the facts of the present case, for the following reasons.

A. PROSECUTION HISTORY OF PARENT APPLICATION

In the Office Action of August 17, 1992, claims 1 and 6 were rejected under 35 USC 102(e) as anticipated by Nishiuchi et al.

The Office Action stated that Nishiuchi et al. show "an optical recording and reproducing apparatus comprising N converging means (elements 8 and 9 of Fig. 1 and Figs. 2(a)-2(d)), disc discriminating means 10, and control means 11 & 16. With respect to the limitation of claim 6 see Fig. 1 elements 3 regarding the light source, objective lens 8, photodetectors 14 & 15, selecting one of the aberration correcting means Figs. 2(a)-2(d), disc discriminating means 10 and control means 11 and 16."

While indicating that claims 2-5 and 7-30 were directed to allowable subject matter, the Office Action stated that "None of the cited prior art shows or teaches an optical head apparatus comprising a plurality of heads (objective lenses) or converging grating couplers, a light beam, photodetectors, moving means, selective means, a disc discriminating means and a control means for generating a control signal to the selecting means to select a grating coupler or an optical head (objective lens) in which the occurrence of aberration of the disc is smallest in accordance with the disc discrimination signal." There was no statement of reasons for allowance in the Notice of Allowability.

In response to the first Office Action, claims 1, 6, 11, 16, 21 and 26 were canceled, and claims 2-5 and 7-10, 12-15, 17-20, 22-25 and 27-30 (deemed in the Office Action as allowable) were rewritten so as to be placed in condition for allowance. Claims 2, 4, 5 and 7-9 were also amended to overcome a 35 USC 112, second paragraph, rejection.

B. PENDING CLAIMS IN PRESENT REISSUE APPLICATION

Claims 87 and 89-100 recite several elements and features (discussed in detail below) not recited in original canceled claim 1 or 6 and omit certain elements of the issued claims which were included in original claims that were, in a first office

action, indicated as allowable and which were, in response, merely rewritten in allowable form.

The present reissue claims "differ materially" from canceled original claims 1 and 6. The material differences include:

Claim 87

The optical recording/reproducing apparatus is defined as recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of the optical discs having at least the first layer being transparent and a second layer for storing information. This preamble is different from that of original claims 1 and 6. Claim 87 recites a light emitting means for emitting a light flux; this element is not present in original claim 1 or 6. Claim 87 recites a converging means having M different effective numerical apertures for converging the light flux on the second layer of ones of the N types of optical discs loaded in the apparatus and performing aberration correction in correspondence with the first layers of the N types of optical discs loaded in the apparatus. The function defining this converging means is not present in original claim 1 or 6. Moreover, the Applicants never surrendered a claim reciting a single converging means (see, the Example cited in Section (A) above, and *Ball Corp.*, *supra*). Claim

87 recites a photo detecting means for detecting reflected light through the converging means from the ones of the optical discs loaded in the apparatus and for outputting the detected reflected light as an electrical signal. The function defining this photo detecting means is subject matter is not present in original claim 1 or 6. Claim 87 recites that the converging means converges the light flux as a spot with a smaller diameter D by employing a larger one of the M effective numerical apertures, with respect to one of the optical discs having a thinner one of the first layers, a thickness of the first layers of each of the N types of optical discs is about 1.2mm or less, and the thickness of the first layer of the one of the optical discs loaded in the apparatus is discriminated by the electrical signal. This subject matter is not present in original claim 1 or 6.

Claims 90-92 dependent from claim 87

These claims recite the following subject matter not present in original claim 1 or 6: (1) M is less than N (claim 90), (2) M equals N (claim 91), and (3) each of the first layers comprises a transparent substrate (claim 92).

Claim 89

Claim 89 recites an optical recording/reproducing system comprising an optical recording /reproducing apparatus as in

claim 87. It further recites a signal processing means, responsive to one of (i) a reproduction signal, corresponding to the information signal, from the photo detecting means and (ii) receipt of recording data, corresponding to the information signal, for recording on the disk, for generating an output signal corresponding to the information signal for performing one of a reproducing operation and a recording operation on the discs; and a system controlling means coupled to the signal processing means for controlling generation of the output signal of the signal processing means. Neither of these elements is present in original claim 1 or 6.

Claims 93-95 dependent from claim 89

These claims recite the following subject matter not present in original claim 1 or 6: (1) M is less than N (claim 93), (2) M equals N (claim 94), and (3) each of the first layers comprises a transparent substrate (claim 95).

Claim 96

Claim 96 recites an optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of the optical discs having at least the first layer being transparent and a second layer for storing information. This preamble is not

present in original claim 1 or 6. Claim 96 recites a light emitting means for emitting a light flux; this element is not present in original claim 1 or 6. Claim 96 recites a converging optical system including a first converging means comprising a first numerical aperture and a second converging means comprising a second numerical aperture, the optical system for converging, by employing one of the first converging means and the second converging means, a light flux on the second layer of one or more of the N types of optical discs, the first numerical aperture and the second numerical aperture being different from one another. The function defining this converging means is not present in original claim 1 or 6. Moreover, the Applicants never surrendered a claim reciting a single converging means (see, the Example cited in Section (A) above, and *Ball Corp., supra*). Claim 96 recites a photo detecting means for detecting reflected light through the converging means from the one of the optical discs loaded in the apparatus through the converging means and for outputting the detected reflected light as an electrical signal. The function defining this photo detecting means is subject matter is not present in original claim 1 or 6. Claim 96 further recites that the converging means converges the light flux as a spot with a smaller diameter D by employing one of the first and second converging means having a larger one of the

effective numerical apertures, with respect to one of the optical discs having a thinner one of the first layers, a thickness of the first layers of each of the N types of optical discs is about 1.2mm or less, and the thickness of the first layer of the one of the optical discs loaded in the apparatus is discriminated by the electrical signal. This subject matter is not present in original claim 1 or 6.

Claim 97 dependent from claim 96

This claim recites the following subject matter not present in original claim 1 or 6: each of the first layers comprises a transparent substrate.

Claim 98

Claim 98 recites an optical recording/reproducing system comprising an optical recording /reproducing apparatus as in claim 96. It further recites a signal processing means, responsive to one of (i) a reproduction signal, corresponding to the information signal, from the photo detecting means and (ii) receipt of recording data, corresponding to the information signal, for recording on the disk, for generating an output signal corresponding to the information signal for performing one of a reproducing operation and a recording operation on the discs; and a system controlling means coupled to the signal

processing means for controlling generation of the output signal of the signal processing means. Neither of these elements is present in original claim 1 or 6.

Claim 99 dependent from claim 98

This claim recites the following subject matter not present in original claim 1 or 6: each of the first layers comprises a transparent substrate.

Claim 100

Claim 100 recites a system comprising an optical recording/reproducing apparatus as in claim 87. It further recites a signal processing apparatus including signal processing means, responsive to one of (i) a reproduction signal, corresponding to the information signal, from the photo detecting means and (ii) receipt of recording data, corresponding to the information signal, for recording on the disk, for generating an output signal corresponding to the information signal for performing one of a reproducing operation and a recording operation on the discs; and a system controlling means coupled to the signal processing means for controlling generation of the output signal of the signal processing means. Neither of these elements is present in original claim 1 or 6.

C. EXAMINER'S POSITION IN OFFICE ACTION

The Office Action states that "Applicant specifically amended original claims 1, 7 and 10 to include the feature of "N optical heads," "N optical heads moving means," and "disk discriminating means" in order to overcome the prior art rejection in the patent file and now has removed such limitations in the present reissue. Similarly, claims 13, 16 and 19 were also amended to include the limitations "output switching means" and N converging grating couplers" which are now deleted."

The Office Action incorrectly states that each of claims 7 and 10 recites N optical heads; instead, they recite an optical head.

The Applicants note that the statement in the Office Action that original claims 1, 7 and 10 were amended to include the noted elements is also incorrect. First, claims 1 and 6 were canceled, not amended. Second, the original claims indicated as allowable in the first Office Action and rewritten in independent form already included such elements. The prosecution of the original application involved, in brief, canceling the rejected claims and rewriting claims deemed allowable by the examiner in independent form; this prosecution activity should be deemed at most a surrender of the combination of subject matter of original claims 1 and 6, but not an admission that only claims as narrow as the claims rewritten in independent form are allowable.

D. PRINCIPLES UNDERLYING THE RECAPTURE RULE

MPEP 1202 states the general recapture rule as follows: "A reissue will not be granted to "recapture" claimed subject matter which was surrendered in an application to obtain the original patent."

In *Ball Corp. v. United States*, 221 USPQ 289, 295 (Fed. Cir. 1984), the Court of Appeals for the Federal Circuit (CAFC) found that certain reissue claims at issue were not barred by the recapture rule despite their being narrower in at least one aspect and broader in at least one aspect than claims canceled during prosecution. The court stated the rule that reissue claims that are of different scope from canceled claims avoid the effect of the recapture rule.

The MPEP, citing *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997), sets forth a two step test for applying the recapture rule. The first step is to determine whether and to what aspect the reissue claims are broader than the patent claims. The next step is to determine whether the broader aspects relate to surrendered subject matter by looking to the prosecution history for arguments or claim amendments made in an effort to overcome a prior art rejection.

The MPEP at page 1400-9 states:

"If the limitation now being omitted or broadened in the present reissue was originally presented/argued/stated in the original application to make the claims allowable over a rejection or objection made in the original application, the omitted limitation relates to subject matter previously surrendered by applicant, and impermissible recapture exists." (emphasis added).

At page 1400-10 through 1400-11, the MPEP states:

"Reissue claims that are broader in certain aspects and narrower in others vis-à-vis claims canceled from the original application to obtain a patent may avoid the effect of the recapture rule if the claims are broader in a way that does not attempt to reclaim what was surrendered earlier. *Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992, 994, 27 USPQ2d 1521, 1525 (Fed. Cir. 1993). "[I]f the reissue claim is as broad as or broader in an aspect germane to a prior art rejection, but narrower in another aspect completely unrelated to the rejection, the recapture rule bars the claim; [] if the reissue claim is narrower in an aspect germane to [a] prior art rejection, and broader in an aspect unrelated to the rejection, the recapture rule does not bar the claim, but other rejections are possible." *Clement*, 131 F.3d at 1470, 45 USPQ2d at 1165."

"If the broadening aspect of the reissue claim relates to subject matter previously surrendered, the examiner must determine whether the newly added narrowing limitation in the reissue claim modifies the claim such that the scope of the claim no longer results in a recapture of the surrendered subject matter. If the narrowing limitation modifies the claim in such a manner that the scope of the claim no longer results in a recapture of the surrendered subject matter, then there is no recapture. In this situation, even though a rejection based on recapture is not made, the examiner should make of record the reason(s) why, as a result of the narrowing limitation, there is no recapture." (emphasis added).

The decision in *Hester Industries Inc. v. Stein Inc.*, 46 USPQ2d 1641 (Fed. Cir. 1998) helps to explain the rules set forth in the above-cited portions of the MPEP. The Hester court stated that (1) reissue claims are not barred under the recapture rule

if they are directed to subject matter whose patentability is not counter to the applicant's arguments during prosecution of the parent case (see page 1649) and (2) the recapture rule is avoided where the reissue claims are materially narrowed in some respects, despite being broadened in other respects (see page 1649).

These principles were applied by the CCPA in *In re Wadlinger et al.*, 181 USPQ 826 (CCPA 1974). There, the court said that the test for improper recapture is whether the reissue claims attempt to recapture the same or an "immaterially" different claim from that canceled during prosecution. Where the reissue claims are materially different from the canceled claims, the recapture rule is inapplicable. See also Chisum on Patents, Chapter 15.03[2](e), which states that a patentee may obtain on reissue a claim that "varies materially" from the claim originally surrendered, even if it omits a limitation intentionally added to obtain issuance of the patent.

B.E. Meyers & Co. v. United States, 56 USPQ2d 1110 (U.S. Ct. of Fed. Cls. 2000) is also instructive in applying the recapture rule. In *B.E. Meyers & Co.*, the U.S. Court of Federal Claims stated that determining whether a reissue claim is broader than a canceled claim involves more than simply counting the number of claim elements or claim limitations. In the facts of that case,

the applicants surrendered subject matter requiring a "generic" pulsing diode, by adding narrowing limitations to the pulsing diode. In the reissue claims, the limitations relating to the pulsing diode were deleted altogether. The court stated at page 1116:

"In essence, plaintiff conceded that more generic forms of pulsing circuitry had already been patented by other inventors....Contrary to defendant's argument, plaintiff's deletion of the pulsing diode and substituting pulsing current limitations did not effect an improper recapture of surrendered subject matter." (emphasis added).

The *B.E. Meyers* decision thus supports the principle that reissue claims may omit amended elements of the claims of the parent patent, although the reissue claims may not be permitted to reinsert the amended element in its original generic form which was surrendered.

E. INAPPLICABILITY OF RECAPTURE BAR TO PRESENT CASE

The present reissue claims are not barred under the recapture rule because they recite subject matter of a scope that differs significantly from that of the canceled claims of the original application. Claims 87 and 89-100 materially differ from canceled original claims 1 and 6 at least with respect to the newly added narrowing limitations identified in Section C

above, resulting in claims with a materially different scope from canceled original claims 1 and 6.

Further, there is nothing in the prosecution history that establishes an admission that the subject matter of the presently pending claims were surrendered. The limitations omitted in the present reissue claims were indicated as allowable in the first office action of the parent application, and they were never "presented/argued/stated" (see MPEP at page 1400-9) during prosecution to make the claims allowable over a prior art rejection. The MPEP at page 1400-10 states:

"Note: The argument that the claim limitation defined over the rejection must have been specific as to the limitation rather than a general statement regarding the claims as a whole. In other words, a general "boiler plate" sentence will not be sufficient to establish recapture. An example of one such "boiler plate" sentence is: In closing, it is argued that the limitations of claims 1-7 distinguish the claims from the teachings of the prior art, and claims 1-7 are thus patentable. This type of general "argument" will not, by itself, be sufficient to establish surrender and recapture. "

In the present case, the Applicants made no argument at all, much less a specific argument as required by the MPEP. The Examiner's statement regarding allowable subject matter in the Office Action of August 17, 1992 is not a specific statement identifying particular limitations which made the claims

allowable but is like the above-noted "boiler plate" statement merely identifying the claimed subject matter as a whole (i.e., it in essence summarizes all of the claim elements). In other words, all that the statement of allowable subject matter said was the prior art does not disclose or suggest the entire combination of the elements of the allowable claims; it did not say that, without any specific one of the claims elements, the claims would not be allowable. In effect, it merely said claims as narrow as claims 2 and 6 were allowable and claims as broad as claims 1 and 6 were not allowable, but there was no discussion of anything intermediate or different from the allowable claims. Thus, the statement of allowable subject matter lacks the requisite specificity required by the MPEP to establish a recapture bar as to any particular element of the allowed claims.

From the above, it is clear that the prosecution history establishes only that it is the combination of the elements of canceled original claim 1 and of original claim 6 that was surrendered, and there was no admission that only claims as narrow as the claims rewritten in independent form are allowable. Claims materially different in scope from canceled claims 1 and 6 are thus not barred by the recapture rule.

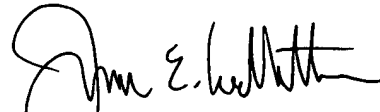
The above clearly establishes that the present reissue claims do not attempt to recapture what was surrendered earlier

and that they differ materially from the surrendered subject matter of canceled claims 1 and 6 of the original application. Accordingly, the presently pending reissue claims do not violate the recapture rule. Withdrawal of this rejection is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,



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Exhibit I

(87.) (Amended) An optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said first layer being transparent and a second layer for storing information, said apparatus comprising:

a light emitting means for emitting a light flux [:];

a converging means having M different effective numerical apertures for converging said light flux on said second layer of ones of said N types of optical discs loaded in said apparatus and performing aberration correction in correspondence with said first layers of said N types of optical discs loaded in said apparatus; and

a photo detecting means for detecting reflected light through said converging means from said ones of said optical discs loaded in said apparatus and for outputting the detected reflected light as an electrical signal,

wherein said converging means converges said light flux as a spot with a smaller diameter D by employing a larger one of said M effective numerical apertures, with respect to one of said optical discs having a thinner one of said first layers,

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wherein a thickness of said first layers of each of said N types of optical discs is about 1.2mm or less, and

wherein the thickness of said first layer of the one of the optical discs loaded in said apparatus is discriminated by said electrical signal.

(89. (Amended) An optical recording/reproducing system comprising:

(a) an optical recording /reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said first layer being transparent and a second layer for storing information, said apparatus comprising:

a light emitting means for emitting a light flux [:];

a converging means having M different effective numerical apertures for converging said light flux on said second layer of ones of said N types of optical discs loaded in said apparatus and performing aberration correction in correspondence with said first layers of said N types of optical discs loaded in said apparatus; and

a photo detecting means for detecting reflected light through said converging means from said one of said optical discs

loaded in said apparatus and for outputting the detected reflected light as an electrical signal,

wherein said converging means converges said light flux as a spot with a smaller diameter D by employing a larger one of said effective numerical apertures, with respect to one of said optical discs having a thinner one of said first layers,

wherein a thickness of said first layers of each of said N types of optical discs is about 1.2mm or less, and

wherein the thickness of said first layer of the one of the optical discs loaded in said apparatus is discriminated by said electrical signal;

(b) a signal processing means, responsive to one of (i) a reproduction signal, corresponding to said information signal, from said photo detecting means and (ii) receipt of recording data, corresponding to said information signal, for recording on said disk, for generating an output signal corresponding to said information signal for performing one of a reproducing operation and a recording operation on said discs; and

(c) a system controlling means coupled to said signal processing means for controlling generation of the output signal of said signal processing means.

90. (Amended) An apparatus according to claim 87, wherein M is less than N.

91. An apparatus according to claim 87, wherein M equals N.

92. An apparatus according to claim 87, wherein each of said first layers comprises a transparent substrate.

93. A system according to claim 89, wherein M is less than N.

94. A system according to claim 89, wherein M equals N.

95. A system according to claim 89, wherein each of said first layers comprises a transparent substrate.

*Not
described
correctly*

96. (Amended) An optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said first layer being transparent and a second layer for storing information, said apparatus comprising:

a light emitting means for emitting a light flux [:]i

a converging optical system including a first converging means comprising a first numerical aperture and a second converging means comprising a second numerical aperture, said optical system for converging, by employing one of said first converging means and said second converging means, a light flux on said second layer of one or more of said N types of optical

discs, said first numerical aperture and said second numerical aperture being different from one another,

a photo detecting means for detecting reflected light through said converging means from said one of said optical discs loaded in said apparatus through said converging means and for outputting the detected reflected light as an electrical signal,

wherein said converging means converges said light flux as a spot with a smaller diameter D by employing one of said first and second converging means having a larger one of said effective numerical apertures, with respect to one of said optical discs having a thinner one of said first layers,

wherein a thickness of said first layers of each of said N types of optical discs is about 1.2mm or less, and

wherein the thickness of said first layer of the one of the optical discs loaded in said apparatus is discriminated by said electrical signal.

97. An apparatus as in claim 96, wherein each of said first layers comprises a transparent substrate.

98. (Amended) An optical recording/reproducing system comprising:

(a) an apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each

type of said optical discs having at least said first layer being transparent and a second layer for storing information, said apparatus comprising:

a light emitting means for emitting a light flux [:];

a converging optical system including a first converging means comprising a first numerical aperture and a second converging means comprising a second numerical aperture, said optical system for converging, by employing one of said first converging means and said second converging means, a light flux on said second layer of one or more of said N types of optical discs, said first numerical aperture and said second numerical aperture being different from one another,

a photo detecting means for detecting reflected light through said converging means from said one of said optical discs loaded in said apparatus through said converging means and for outputting the detected reflected light as an electrical signal,

wherein said converging means converges said light flux as a spot with a smaller diameter D by employing one of said first and second converging means having a larger one of said effective numerical apertures, with respect to one of said optical discs having a thinner one of said first layers,

wherein a thickness of said first layers of each of said N types of optical discs is about 1.2mm or less, and

wherein the thickness of said first layer of the one of the optical discs loaded in said apparatus is discriminated by said electrical signal;

(b) a signal processing means, responsive to one of (i) a reproduction signal, corresponding to said information signal, from said photo detecting means and (ii) receipt of recording data, corresponding to said information signal, for recording on said disk, for generating an output signal corresponding to said information signal for performing one of a reproducing operation and a recording operation on said discs; and

(c) a system controlling means coupled to said signal processing means for controlling generation of the output signal of said signal processing means.

99. A system as in claim 98, wherein each of said first layers comprises a transparent substrate.

100. (Amended) A system comprising:

(a) an optical recording/reproducing apparatus for recording, reproducing or erasing an information signal onto/from any one of N types (where $N \geq 2$) of optical discs having first layers of different thicknesses, each type of said optical discs having at least said first layer being transparent and a second layer for storing information, said apparatus comprising:

a light emitting means for emitting a light flux [:];

a converging means having M different effective numerical apertures for converging said light flux on said second layer of ones of said N types of optical discs loaded in said apparatus and performing aberration correction in correspondence with said first layers of said N types of optical discs loaded in said apparatus; and

a photo detecting means for detecting reflected light through said converging means from said one of said optical discs loaded in said apparatus and for outputting the detected reflected light as an electrical signal,

wherein said converging means converges said light flux as a spot with a smaller diameter D by employing a larger one of said effective numerical apertures, with respect to one of said optical discs having a thinner one of said first layers,

wherein a thickness of said first layers of each of said N types of optical discs is about 1.2mm or less, and

wherein the thickness of said first layer of the one of the optical discs loaded in said apparatus is discriminated by said electrical signal;

(b) a signal processing apparatus including:

signal processing means, responsive to one of (i) a reproduction signal, corresponding to said information signal, from said photo detecting means and (ii) receipt of recording

data, corresponding to said information signal, for recording on said disk, for generating an output signal corresponding to said information signal for performing one of a reproducing operation and a recording operation on said discs; and

system controlling means coupled to said signal processing means for controlling generation of the output signal of said signal processing means.